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Fig.1.

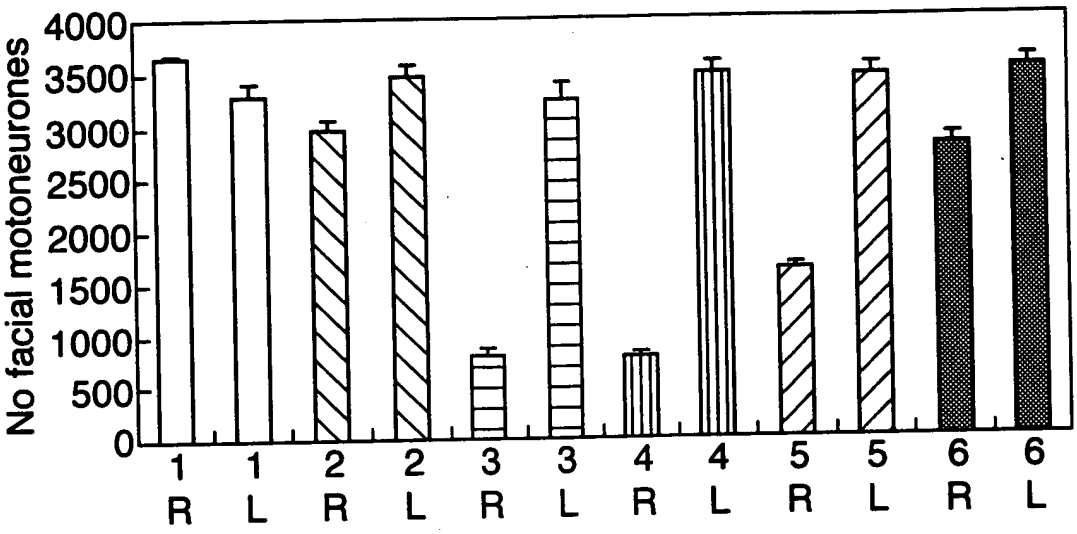


Fig.2a.

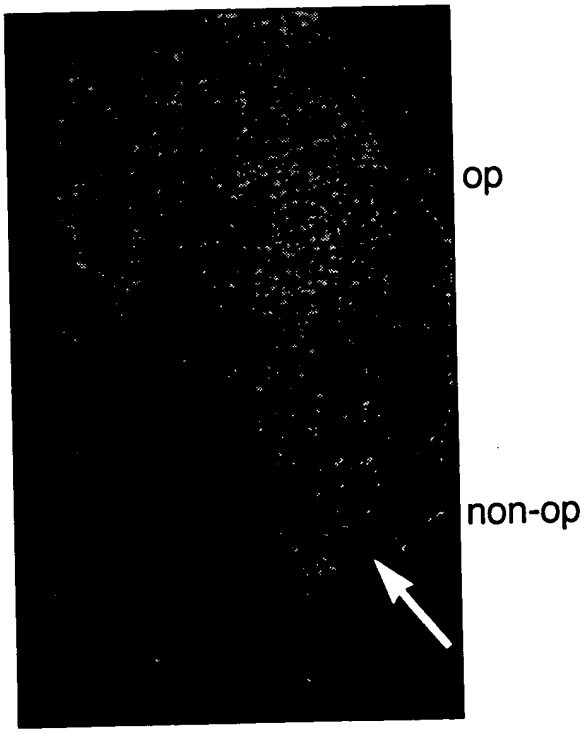


Fig.2b.

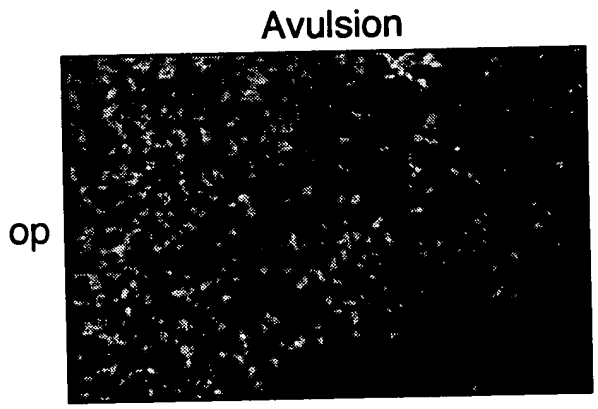


Fig.2c.

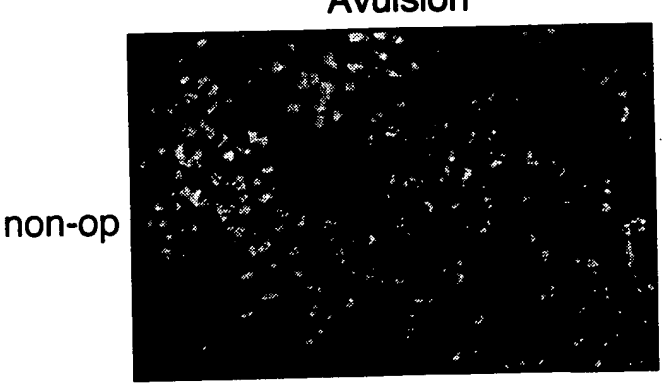
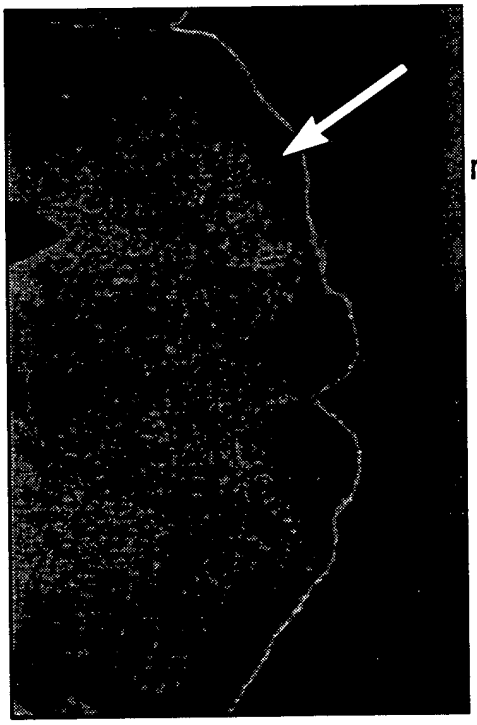


Fig.3a.

Plasmid



non-op

op

Fig.3b.

Plasmid

non-op

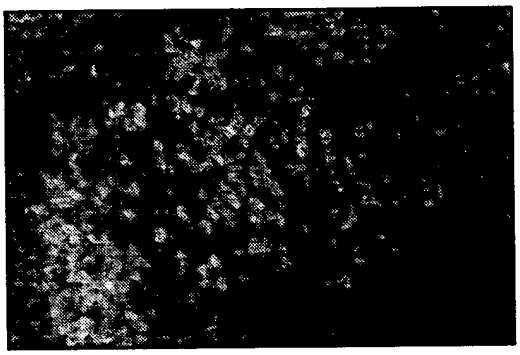


Fig.3c.

Plasmid

op

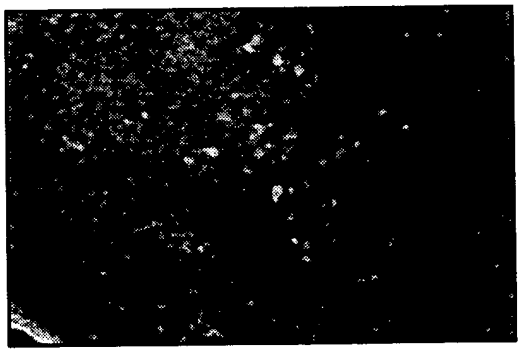
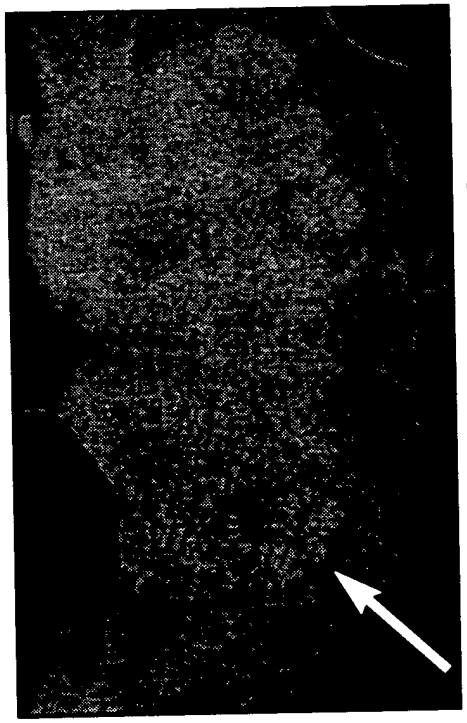


Fig4a.

MGF Plasmid



op

non-op

Fig4b.

MGF Plasmid

op

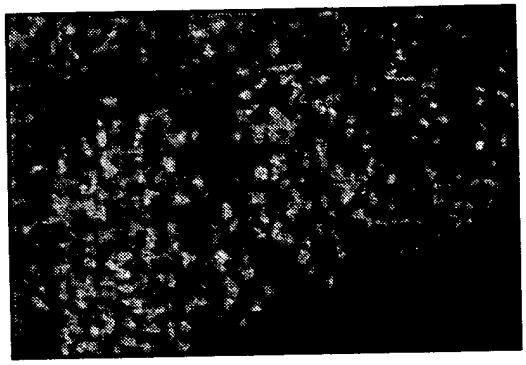


Fig4c.

MGF Plasmid

non-op

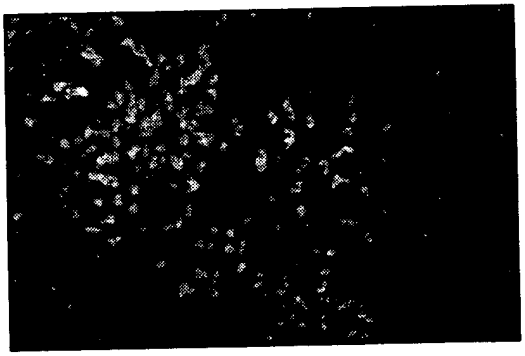


Fig.5.

cDNA sequence of Human MGF

Exon 3

GGACCGGAGACGCTCTGCGGGGCTGAGCTGGTGGATGCTCTTCAGTTCGTGTGTGGAGACAGGGGCTTTTATTTCAACAAGCCCACAGGGTATGGCTCCAGCAGTCGG

Exon 4

AGGGCGCCTCAGACAGGCATCGTGGATGAGTGCTGCTTCCGGAGCTGTGATCTAAGGAGGCTGGAGATGTATTGCGCACCCCTCAAGCCTGCCAAGTCAGCTCGCTC

TGTCCGTGCCCAGCGCCACACCGACATGCCCAAGACCCAGAAGTATCAGCCCCCATCTACCAACAAGAACACGAAGTCTCAGAGAAGGAAAGGAAGTACATTTGAAG

Exon 5

Exon 6

ACACAAGTAGAGGGAGTGCAGGAAACAAGAACTACAGGATGTAGAAGACCCTTCTGAGGAGTGAAGAAGGACAGGCCACCGCAGGACCCTTTGCTCTGCACAGTTA

CCTGTAAACATTGGAATACCGGCCAAAAAATAAGTTTGATCACATTTCAAAGATGGCATTTCCCCCAATGAAATACACAAGTAAACAT

Protein sequence of Human MGF

Exon 3

GlyProGluThrLeuCysGlyAlaGluLeuValAspAlaLeuGlnPheValCysGlyAspArgGlyPheTyrPheAsnLysProThrGlyTyrGlySerSerSerAr

Exon 4

gArgAlaProGlnThrGlyIleValAspGluCysCysPheArgSerCysAspLeuArgArgLeuGluMetTyrCysAlaProLeuLysProAlaLysSerAlaArgS

erValArgAlaGlnArgHisThrAspMetProLysThrGlnLysTyrGlnProProSerThrAsnLysAsnThrLysSerGlnArgArgLysGlySerThrPheGlu

Exon 5

Exon 6

GluHisLys

cDNA sequence of Rat MGF

Fig.6.

Exon 3

GGACCAGAGACCCTTTGCGGGGCTGAGCTGGTGGACGCTCTTCAGTTCGTGTGTGGACCAAGGGGCTTTTACTTCAACAAGCCCACAGTCTATGGCTCCAGCATTCG

Exon 4

GAGGGCACCACAGACGGGCATTGTGGATGAGTGTTGCTTCCGGAGCTGTGATCTGAGGAGGCTGGAGATGTACTGTGTCCGCTGCAAGCCTACAAAGTCAGCTCGTT

Exon 5

CCATCCGGGCCCAGCGCCACACTGACATGCCCAAGACTCAGAAGTCCCAGCCCCTATCGACACACAAGAAAAGGAAGCTGCAAAGGAGAAGGAAAGGAAGTACACTT

Exon 6

GAAGAACACAAGTAGAGGAAGTGCAGGAAACAAGACCTACAGAATGTAGGAGGAGCCTCCCGAGGAACAGAAAATGCCACGTCACCGCAAGATCCTTTGCTGCTTGA

GCAACCTGCAAAACATCGGAACACCTGCCAAATATCAATAATGAGTTCAATATCATTTCAGAGATGGGCATTTCCCTCAATGAAATACACAAGTAAACATTCCCGGA

ATTC

Protein sequence of Rat MGF

Exon 3

GlyProGluThrLeuCysGlyAlaGluLeuValAspAlaLeuGlnPheValCysGlyProArgGlyPheTyrPheAsnLysProThrValTyrGlySerSerIleAr

Exon 4

gArgAlaProGlnThrGlyIleValAspGluCysCysPheArgSerCysAspLeuArgArgLeuGluMetTyrCysValArgCysLysProThrLysSerAlaArgS

Exon 5

erIleArgAlaGlnArgHisThrAspMetProLysThrGlnLysSerGlnProLeuSerThrHisLysLysArgLysLeuGlnArgArgArgLysGlySerThrLeu

Exon 6

GluGluHisLys

cDNA sequence of Rabbit MGF

Fig.7.

Exon 3
GGACCGGAGACGCTCTGCGGTGCTGAGCTGGTGGATGCTCTTCAGTTCGTGTGTGGAGACAGGGGCTTTTATTTCAACAAGCCCACAGGATACGGCTCCAGCAGTCGGAGGGCACC
Exon 4
TCAGACAGGCATCGTGGATGAGTGCTGCTTCCGGAGCTGTGATCTGAGGAGGCTGGAGATGTACTGTGCACCCCTCAAGCCGGCAAAGGCAGCCCGCTCCGTCCGTGCCCAGCGCC
ACACCGACATGCCCAAGACTCAGAAGTATCAGCCTCCATCTACCAACAAGAAAATGAAGTCTCAGAGGAGAAGGAAAGGAAGTACATTTGAAGAACACAAGTAGAGGGAGTGCAGG
Exon 5
AAACAAGAACTACAGGATGTAGGAAGACCCTTCTGAGGAGTGAAGAAGGACAGGCCACGGCAGGACCCTTTGCTCTGCACAGTTACCTGTAAACATTGGAATACCGGCCAAAAAAT
Exon 6
AAGTTTGATCACATTTCAAAGATGGCATTTCCCCCAATGAAATACACAAGTAAACATTC

Protein sequence of Rabbit MGF

Exon 3
GlyProGluThrLeuCysGlyAlaGluLeuValAspAlaLeuGlnPheValCysGlyAspArgGlyPheTyrPheAsnLysProThrGlyTyrGlySerSerSerArgArgAlaPr
Exon 4
oGlnThrGlyIleValAspGluCysCysPheArgSerCysAspLeuArgArgLeuGluMetTyrCysAlaProLeuLysProAlaLysAlaAlaArgSerValArgAlaGlnArgH
Exon 5
isThrAspMetProLysThrGlnLysTyrGlnProProSerThrAsnLysLysMetLysSerGlnArgArgArgLysGlySerThrPheGluGluHisLys
Exon 6

Fig.8.

cDNA sequence of Human L.IGF-1

Exon 3

GGACCGGAGACGCTCTGCGGGGCTGAGCTGGTGGATGCTCTTCAGTTCGTGTGTGGAGACAGGGGCTTTTATTTCAACAAGCCCACAGGGTATGGCTCCAGCAGTCGGAGGGCGCC

Exon 4

TCAGACAGGCATCGTGGATGAGTGCTGCTTCCGGAGCTGTGATCTAAGGAGGCTGGAGATGTATTGCGCACCCCTCAAGCCTGCCAAGTCAGCTCGCTCTGTCCGTGCCCAGCGCC

ACAGCGACATGCCCAAGACCCAGAAGGAAGTACATTTGAAGAACGCAAGTAGAGGGAGTGCAGGAAACAAGAACTACAGGATGTAG

Exon 6

Protein sequence of Human L.IGF-1

Exon 3

GlyProGluThrLeuCysGlyAlaGluLeuValAspAlaLeuGlnPheValCysGlyAspArgGlyPheTyrPheAsnLysProThrGlyTyrGlySerSerSerArgArgAlaPr

Exon 4

oGlnTheGlyIleValAspGluCysCysPheArgSerCysAspLeuArgArgLeuGluMetTyrCysAlaProLeuLysProAlaLysSerAlaArgSerValArgAlaGlnArgH

isThrAspMetProLysThrGlnLysGluValHisLeuLysAsnAlaSerArgGlySerAlaGlyAsnLysAsnTyrArgMet

Exon 6

Fig.9.

cDNA sequence of Rat L.IGF-1

Exon 3
GGACCAGAGACCCTTTGCGGGGCTGAGCTGGTGGACGCTCTTCAGTTCGTGTGTGGACCAAGGGGCTTTTACTTCAACAAGCCCACAGTCTATGGCTCCAGCATTCGGAGGGCACC
Exon 4
ACAGACGGGCATTGTGGATGAGTGTTGCTTCCGGAGCTGTGATCTGAGGAGGCTGGAGATGTACTGTGTCCGCTGCAAGCCTACAAAGTCAGCTCGTTCCATCCGGGCCCAGCGCC
Exon 6
ACACTGACATGCCCAAGACTCAGAAGGAAGTACACTTGAAGAACACAAGTAGAGGAAGTGCAGGAAACAAGACCTACAGAATGTAGGAGGAGCCTCCCGAGGAACAGAAAATGCCA
CGTCACCGCAAGATCCTTTGCTGCTTGAGCAACCTGCAAAACATCGGAACACCTGCCAAATATCAATAATGAGTTCAATATCATTTCAGAGATGGGCATTTCCCTCAATGAAATAC
ACAAGTAAACATTCCCGGAATTC

Protein sequence of Rat L.IGF-1

Exon 3
GlyProGluThrLeuCysGlyAlaGluLeuValAspAlaLeuGlnPheValCysGlyProArgGlyPheTyrPheAsnLysProThrValTyrGlySerSerIleArgArgAlaPr
Exon 4
oGlnThrGlyIleValAspGluCysCysPheArgSerCysAspLeuArgArgLeuGluMetTyrCysValArgCysLysProThrLysSerAlaArgSerIleArgAlaGlnArgH
Exon 6
isThrAspMetProLysThrGlnLysGluValHisLeuLysAsnThrSerArgGlySerAlaGlyAsnLysThrTyrArgMet

Fig.10.

cDNA sequence of Rabbit L.IGF-1

Exon 3

GGACCGGAGACGCTCTGCGGTGCTGAGCTGGTGGATGCTCTTCAGTTCGTGTGTGGAGACAGGGGCTTTTATTTCAACAAGCCCACAGGATACGGCTCCAGCAGTCGGAGGGCACC

Exon 4

TCAGACAGGCATCGTGGATGAGTGCTGCTTCCGGAGCTGTGATCTGAGGAGGCTGGAGATGTACTGTGCACCCCTCAAGCCGGCAAAGGCAGCCCGCTCCGTCCGTGCCCAGCGCC

ACACCGACATGCCCAAGACTCAGAAGGAAGTACATTTGAAGAACACAAGTAGAGGGAGTGCAGGAAACAAGAACTACAGGATGTAGGAAGACCCTTCTGAGGAGTGAAGAAGGACA

Exon 6

GGCCACCGCAGGACCCTTTGCTCTGCACAGTTACCTGTAAACATTGGAATACCGGCCAAAAAATAAGTTTGATCACATTTCAAAGATGGCATTTCCCCCAATGAAATACACAAGTA

AACATTC

Protein sequence of Rabbit L.IGF-1

Exon 3

GlyProGluThrLeuCysGlyAlaGlnLeuValAspAlaLeuGlnPheValCysGlyAspArgGlyPheTyrPheAsnLysProThrGlyTyrGlySerSerSerArgArgAlaPr

Exon 4

pGlnThrGlyIleValAspGluCysCysPheArgSerCysAspLeuArgArgLeuGluMetTyrCysAlaProLeuLysProAlaLysAlaAlaArgSerValArgAlaGlnArgH

Exon 6

isThrAspMetProLysThrGlnLysGluValHisLeuLysAsnThrSerArgGlySerAlaGlyAsnLysAsnTyrArgMet

Fig.11.

```
                                Exon 4
Hu MGF -    A | sn Lys Pro Thr Gly Tyr Gly Ser Ser Ser Arg Arg Ala Pro Gln Thr Gly Ile Val Asp Glu Cys Cys Phe
Rat MGF -   A | sn Lys Pro Thr Val Tyr Gly Ser Ser Ile Arg Arg Ala Pro Gln Thr Gly Ile Val Asp Glu Cys Cys Phe
Rab MGF -   A | sn Lys Pro Thr Gly Tyr Gly Ser Ser Ser Arg Arg Ala Pro Gln Thr Gly Ile Val Asp Glu Cys Cys Phe
Hu IGF -    A | sn Lys Pro Thr Gly Tyr Gly Ser Ser Ser Arg Arg Ala Pro Gln Thr Gly Ile Val Asp Glu Cys Cys Phe
Rat IGF -   A | sn Lys Pro Thr Val Tyr Gly Ser Ser Ile Arg Arg Ala Pro Gln Thr Gly Ile Val Asp Glu Cys Cys Phe
Rab IGF -   A | sn Lys Pro Thr Gly Tyr Gly Ser Ser Ser Arg Arg Ala Pro Gln Thr Gly Ile Val Asp Glu Cys Cys Phe

Hu  MGF -   Arg Ser Cys Asp Leu Arg Arg Leu Glu Met Tyr Cys Ala Pro Leu Lys Pro Ala Lys Ser Ala Arg Ser Val
Rat MGF -   Arg Ser Cys Asp Leu Arg Arg Leu Glu Met Tyr Cys Val Arg Cys Lys Pro Thr Lys Ser Ala Arg Ser Ile
Rab MGF -   Arg Ser Cys Asp Leu Arg Arg Leu Glu Met Tyr Cys Ala Pro Leu Lys Pro Ala Lys Ala Ala Arg Ser Val
Hu IGF -    Arg Ser Cys Asp Leu Arg Arg Leu Glu Met Tyr Cys Val Arg Cys Lys Pro Thr Lys Ser Ala Arg Ser Val
Rat IGF -   Arg Ser Cys Asp Leu Arg Arg Leu Glu Met Tyr Cys Ala Pro Leu Lys Pro Ala Lys Ala Ala Arg Ser Val
Rab IGF -   Arg Ser Cys Asp Leu Arg Arg Leu Glu Met Tyr Cys Ala Pro Leu Lys Pro Ala Lys Ala Ala Arg Ser Val

                                                                                Exon 5
Hu MGF -    Arg Ala Gln Arg His Thr Asp Met Pro Lys Thr Gln Lys | Tyr Gln Pro Pro Ser Thr Asn Lys Asn Thr Lys
Rat MGF -   Arg Ala Gln Arg His Thr Asp Met Pro Lys Thr Gln Lys | Ser Gln Pro Leu Ser Thr His Lys Lys Arg Lys
Rab MGF -   Arg Ala Gln Arg His Thr Asp Met Pro Lys Thr Gln Lys | Tyr Gln Pro Pro Ser Thr Asn Lys Lys Met Lys
Hu IGF -    Arg Ala Gln Arg His Thr Asp Met Pro Lys Thr Gln Lys | ----------------------------------------
Rat IGF -   Arg Ala Gln Arg His Thr Asp Met Pro Lys Thr Gln Lys | ----------------------------------------
Rab IGF -   Arg Ala Gln Arg His Thr Asp Met Pro Lys Thr Gln Lys | ----------------------------------------

                                                Exon 6
Hu MGF -    Ser Gln      Arg Arg Lys G | ly Ser Thr Phe Glu Glu His Lys
Rat MGF -   Leu Gln Arg Arg Arg Lys G | ly Ser Thr Leu Glu Glu His Lys
Rab MGF -   Ser Gln Arg Arg Arg Lys G | ly Ser Thr Phe Glu Glu His Lys
Hu IGF -    ------------------------- |Glu Val His Leu Lys Asn Ala Ser Arg Gly Ser Ala Gly Asn Lys Asn Tyr Arg Met
Rat IGF -   ------------------------- |Glu Val His Leu Lys Asn Thr Ser Arg Gly Ser Ala Gly Asn Lys Thr Tyr Arg Met
Rab IGF -   ------------------------- |Glu Val His Leu Lys Asn Thr Ser Arg Gly Ser Ala Gly Asn Lys Asn Tyr Arg Met
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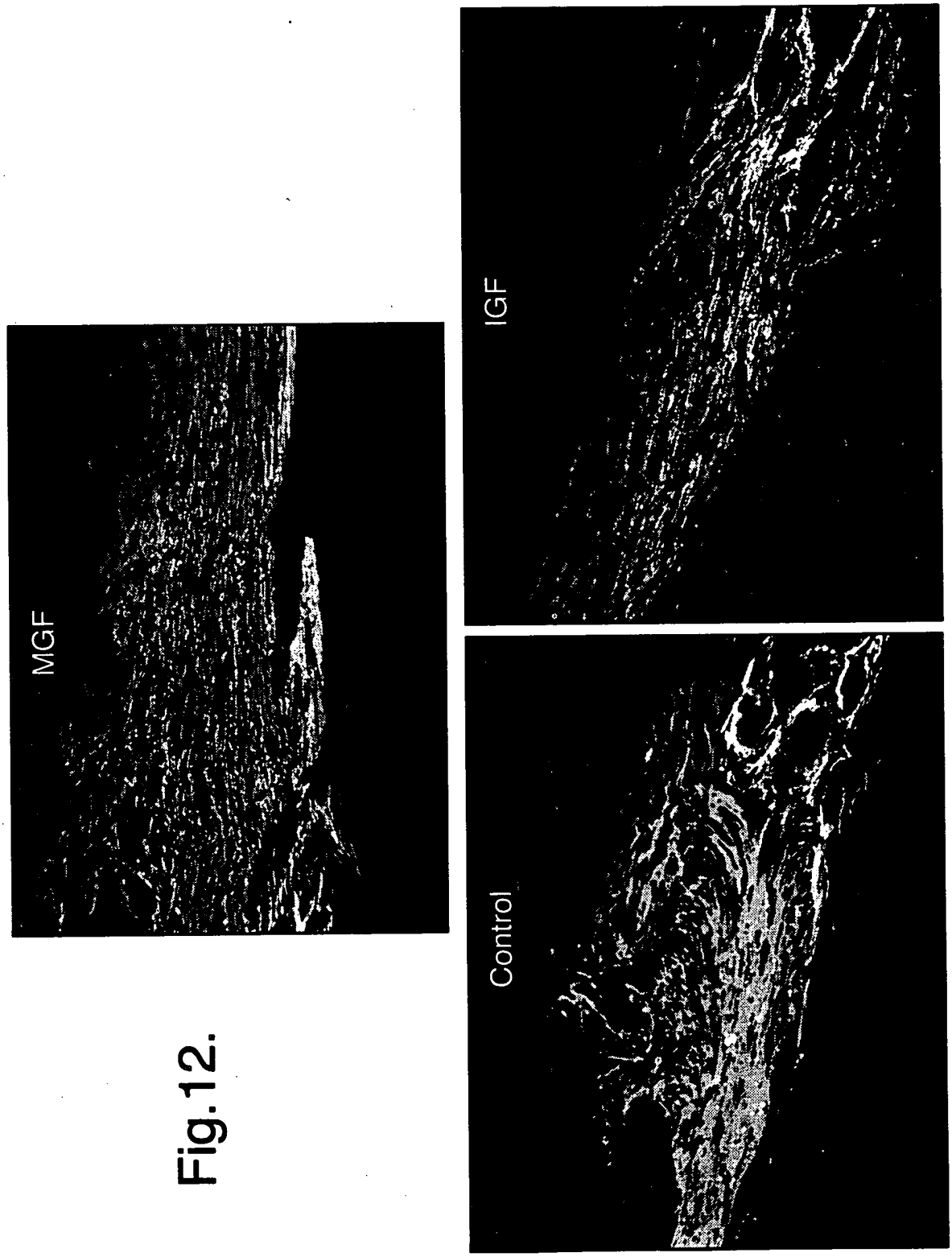

Fig.12.